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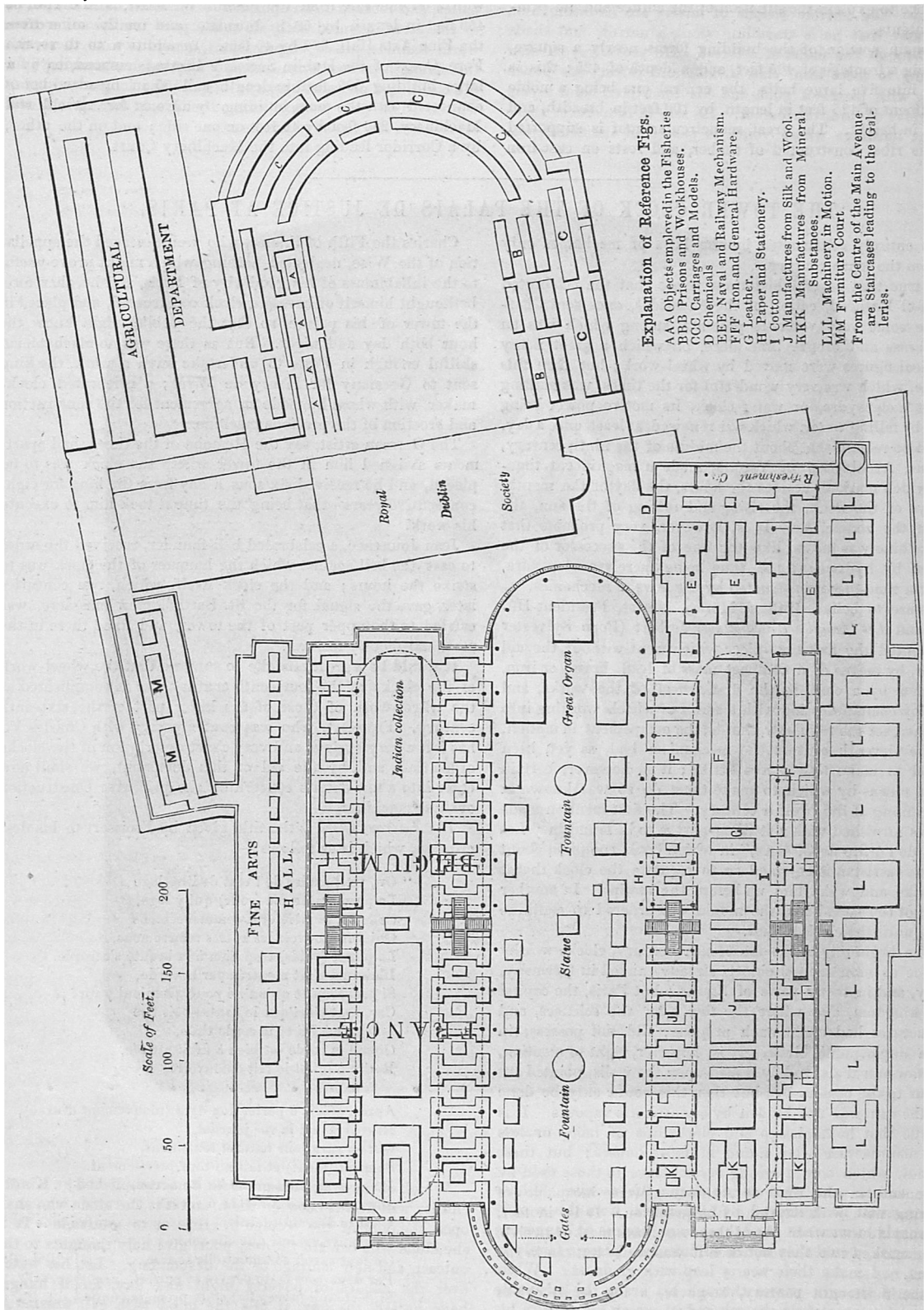
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OPENING OF THE IRISH INDUSTRIAL EXHIBITION.

DUBLIN, May 12th, 1853.

At twelve o'clock this day, the Great Irish Exhibition was formally opened by his Excellency the Lord Lieutenant,

scientific bodies represented in the Exhibition, and various other notabilities. Like its great progenitor in Hyde-park, this national undertaking was projected, designed, and com-



GROUND PLAN OF THE IRISH EXHIBITION BUILDING, DUBLIN, DESIGNED AND ERECTED BY MR. BENSON.

assisted by the Mayor and Corporation of Dublin, deputations from the Royal Commission of 1851, the several foreign and

VOL. II.—No. VII.

pleted within a year. To Mr. William Dargan the Irish public mainly owe the successful completion of the beautiful building

which has this day been inaugurated. The first stone was laid in August, 1852, on the lawn belonging to the Royal Dublin Society's House, the situation of which will explain the somewhat incongruous shape of the entire structure, as shown in the ground plan. The following brief particulars will suffice to explain the situation of the edifice and its principal contents.

The main portion of the building forms nearly a square, presenting a frontage of 405 feet, and a depth of 425; this is divided into five large halls, the central one being a noble compartment of 425 feet in length, by 100 feet in breadth, and 104 feet in height. The great semicircular roof is supported by trellis ribs, constructed of timber, and rests on cast-iron

columns, 45 feet in height; on either side are two compartments of 25 feet in width, running the whole length of the building; adjoining these are two Halls of 325 feet in length by 50 in width, with semicircular roofs 65 feet in height. These Halls are separated by compartments of 25 feet in width, on one side from the Machinery Court, a fine Hall of 450 feet in length by 50 in breadth; and on the other from the Fine Arts Hall, 325 by 40 feet. In addition to these, the Fore Court of the Dublin Society's House is surrounded by a large building 500 feet in length and 55 in breadth, being connected with the main building by a Court for Agricultural Machinery, 250 feet by 40 feet on one side; and on the other, by a Corridor leading into the Machinery Court.

THE TOWER CLOCK OF THE PALAIS DE JUSTICE AT PARIS.

CLOCKS entirely constructed by the laws of mechanics only date from the tenth century.

It is true that several historians relate that the celebrated Haroon-el-Rasheed, caliph of the Abassides, once sent Charlemagne some very valuable presents, among which was an inlaid brass and bronze time-piece, on which a great many allegorical figures were moved by wheel-work; but then this machine, which was very wonderful for the times, was nothing else but a clepsydra, or water-clock, its motive power being formed by falling water, which was renewed, at least, once a day.

It is also related that about the middle of the ninth century, Pacificus, Archbishop of Verona, made a magnificent time-piece, which marked, besides the hours, the day of the month, the days of the week, the rising and setting of the sun, the signs of the zodiac, &c. It is, however, very probable that this machine was moved like the one of the successor of the Prophet, by hydraulic force, thus being merely a clepsydra, and not a time-piece constructed by the laws of mechanics.

If we are to believe Haften, Moreri, Marlet, President Hénauld, and *Les Annales Bénédictines*, Jerbert (Pope Sylvester II.) invented the first time-piece which went without the aid of water, by means of a compact mass of lead, brass, or iron, suspended by a cord to the first wheel of the works, and which, by communicating with a series of wheels working into each other, set the regulator, that is, the escapement, in motion.

In the eleventh century, no mechanism had, as yet, been invented to make time-pieces strike; it is, however, certain that the means by which to make them do so was known at the beginning of the twelfth century. The first mention made of clocks furnished with a striking-part is to be found in "*Les Usages de l'ordre de Cîteaux*," in which book, compiled about 1120, the sacristan is enjoined so to regulate the clock that it may strike and wake him up before the matins. In another passage of the same book, the monks are ordered to continue reading until the clock strikes.

At the beginning of the fourteenth century, clocks worthy of notice as monumental objects already existed in Germany, in Italy, and in many parts of France; but Paris, the capital of the kingdom, and where the fine arts, the sciences, and manufactures had made such progress, did not possess, in 1380, a single public clock. It is, however, right to mention, that a few sundials, rudely traced upon the walls, pointed out the hour to the passers-by; but then this could only be done when the sun was not hidden by atmospheric vapours. It is also true that hour-glasses and clepsydras of more or less costly manufacture were found in most houses; but these machines, which bore a strong resemblance to those used by the Romans in the time of Augustus, were incapable of measuring time with anything like precision. It is, in fact, very probable that when one of these machines marked twelve, another marked two o'clock, when it was really but ten in the morning.

In the fourteenth century, however, a few small clocks furnished with weights were seen in the mansions of the aristocracy; but they were nothing more than curiosities, for they did not mark the hour with any more precision than did the hour-glasses and clepsydras.

Charles the Fifth of France, who well deserved the appellation of the Wise, neglected nothing which might prove useful to the inhabitants of his good city of Paris, and he, therefore, bethought himself of having a clock constructed, and placed in the tower of his palace, so that the public might know the hour both day and night. But as there was no mechanician skilful enough in Paris to undertake such a work, the king sent to Germany for Henry de Wyck, a celebrated clock-maker, with whom he made an agreement for the construction and erection of the precious machine.

The German artist, say the *Memoirs of the times*, had apartments assigned him in the tower where the clock was to be placed, and he received six sous a day from the king for eight consecutive years—that being the time it took him to execute his work.

Jean Joumence, a celebrated bell-founder, received the order to cast the bell against which the hammer of the clock was to strike the hours; and the clock itself, which, two centuries later, gave the signal for the St. Bartholomew massacre, was carried to the upper part of the tower, and fixed there in the most satisfactory manner.

It would be a great mistake to suppose that the wheel-work of the clocks of the fourteenth century was as complicated as the wheel-work of those of the latter part of the sixteenth century. Froissart, who was contemporary with Charles V., has left a very curious and very exact description of the clocks of his time, and, by the aid of this document, we shall now enter into a few details concerning the primitive construction of these machines.

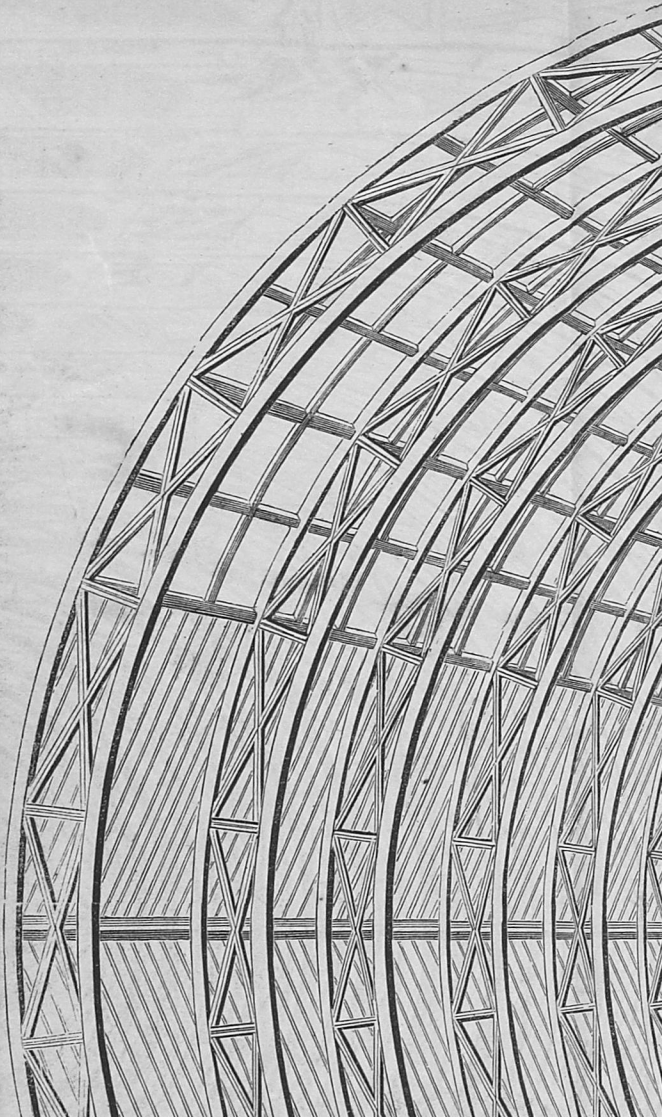
The Amorous Clock is the title given by Froissart to his description, which is as follows:—

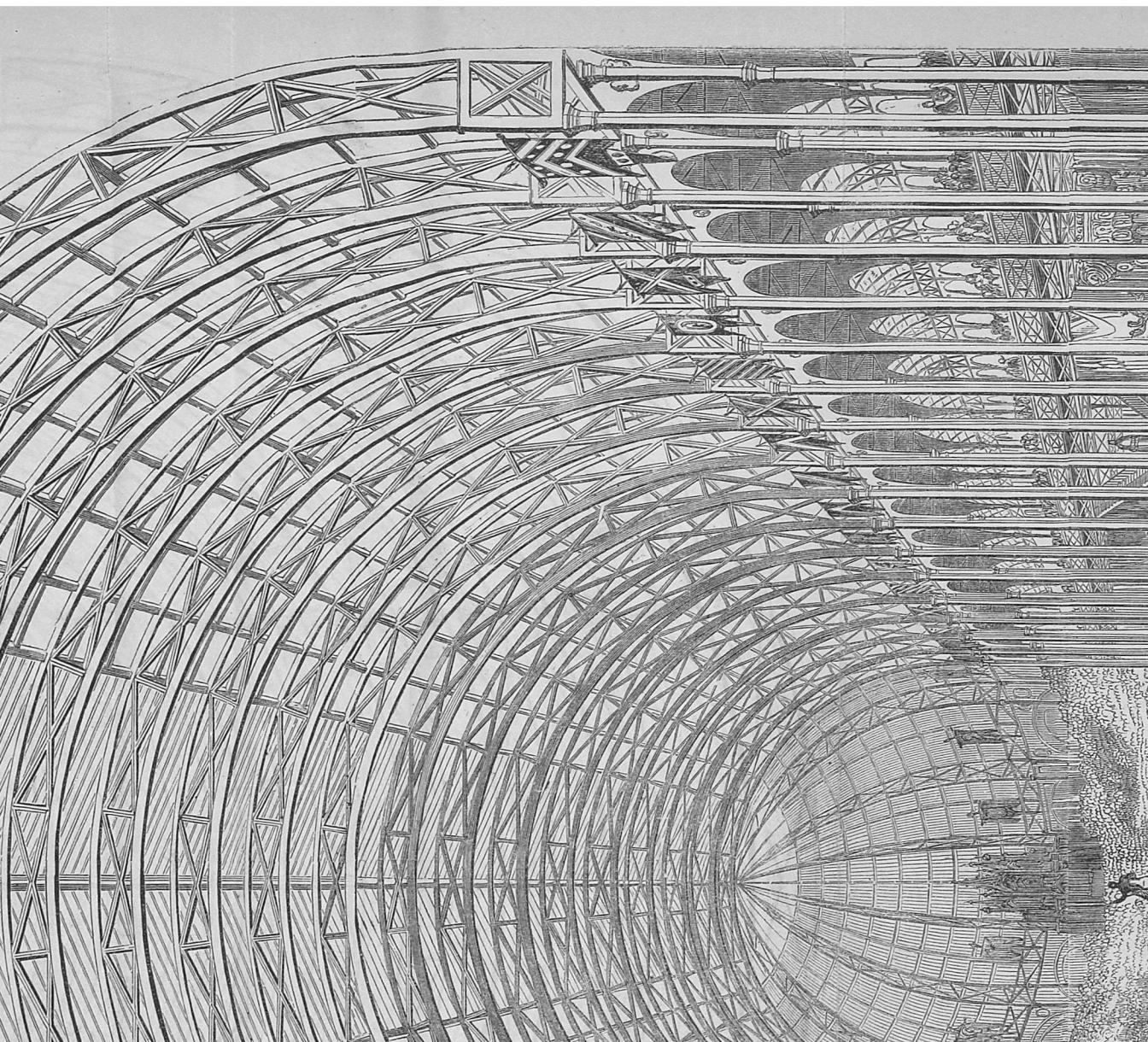
"Ou, vail parler de l'estat de l'horloge
La premeraine roe (roue) qui y loge,
Celle est la mère et li commencement
Qui fait mouvoir les autres mouvemens.
Le plonk (poids) trop bien à la beauté s'accorde.
Plaisance s'est moutrée par la corde,
Si proprement qu'on ne pourrait mieul y dire;
Car, tout ainsi que le contre-pois tire
La corde à lui et la corde tirée,
Quand la corde est bien à droit attirée,
Retire à lui et le fait émouvoir.

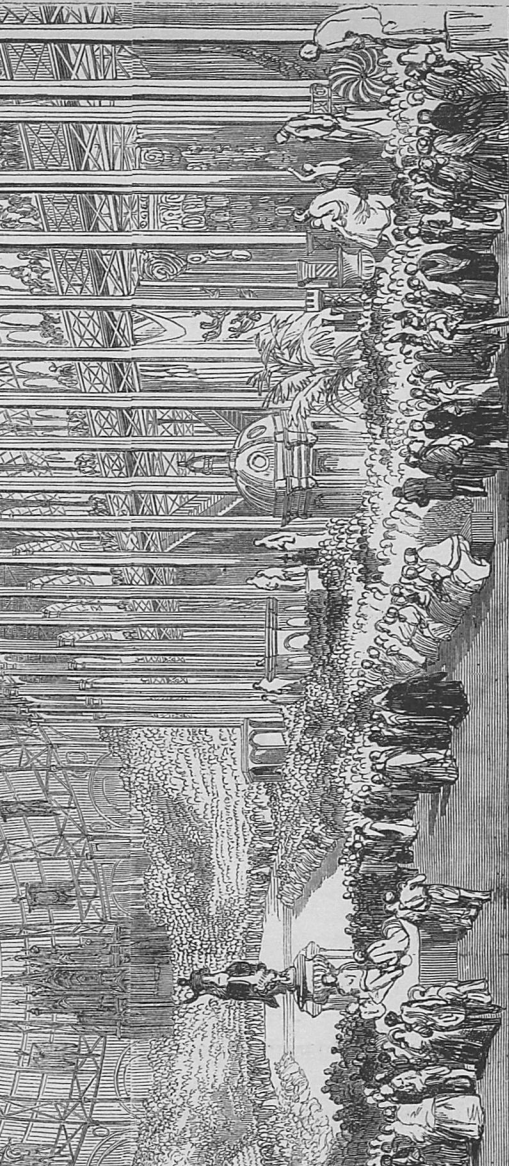
* * * * *
Après, affiert à parler dou dyal (mouvement diurne),
Et ce dyal est la roe journal,
Qui en surg jour naturel seulement,
Se moët (ment) et fait mi tour préciément.
En ce dyal, dont grans est li mérites,
Sont les heures XXIIII d'écrites.
C'est le derrain (dernier) mouvement qui ordonne
La sonnerie, ainsi que elle sonne;
On faut savoir comment elle se fait,
Par deux roes ceste oeuvre se parfait.
Si porte o li (avec elle) ceste premeraine roe,
Ung contre-pois par quoi e se roe (elle se ment),
Et qui le fait le mouvoir, selonc m'entente,
Lorsque levée est à point la de-tente,
Et la seconde est la roe chantore (roue de la sonneril)."

AL EXHIBITION, DUBLIN, 1853.

ED, AT A COST OF £100,000, FROM DESIGNS BY SIR J. BENSON, ARCHITECT.







GREAT INDUSTRIAL EXHIBITION, DUBLIN—OPENED MAY 12, 1853.

[ENGRAVED BY H. LINTON AND G. PEARSON.]

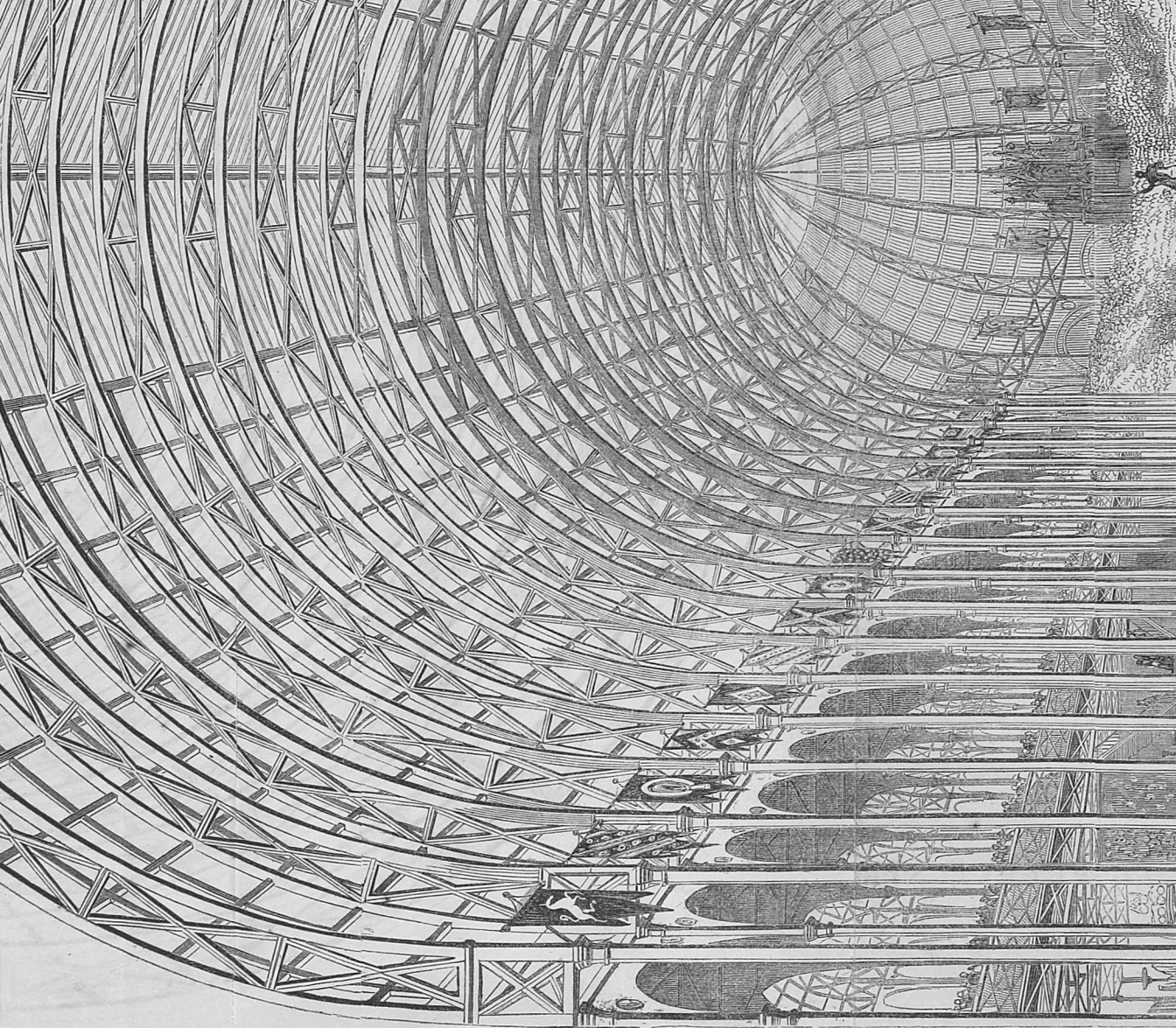
PRINCIPAL DIMENSIONS OF THE BUILDING.

Main Columns supporting the trellised roof	45 feet.	Length of Agricultural Court	250 feet.
Side Halls	325 "	Length of Machinery Court.....	450 "
ditto	50 "	Length of Fine Arts Court	325 "
Circular Roofs to ditto	65 "	Width of Outer Gallery	20 "

GREAT INDUSTRIAL EXHIBITION

PROJECTED BY W. DARGAN, ESQ., AND ERECTED, AT A COST OF £100,000,







VIEW OF THE INTERIOR OF THE GREAT INDUSTRIAL EXHIBITION, D

DRAWN BY GILBERT, FROM DESIGNS BY J. MAHONY, ESQ.]

PRINCIPAL DIMENSIONS OF THE BUILD

Main Frontage	405 feet.	Height of Main Columns supporting the trellised roof
Length of Central Hall	425 "	Length of Side Halls
Breadth of ditto	100 "	Width of ditto
Height of ditto	104 "	Height of Circular Roofs to ditto